Depos: 26 June 1832.

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THE COTTON MANUFACTURER'S *Useful Assistant*,

In Buying, Selling, or Making-up all sorts of Yarn:

CONTAINING A

Compendious Table;

SHEWING, AT ONE VIEW,

By the WEIGHT of any Number of Leas from One to Seven, the Length of any One Pound, of from One to Three Hundred Hanks in the Pound; By JOSEPH STOPFORD and NEHEMIAH GERRARD.

TO WHICH IS ADDED,

THE COTTON-YARN MEASURE

AND

WARP TABLES,

Exhibiting the Number of Hanks, Leas, and Yards, requsite to makea Warp of any required dimensions.

PHILADELPHIA:
PRINTED AND PUBLISHED BY J. METCALF & CO. AND
WHOLESALE AND RETAIL AT 172, GERMANTOWN ROAD
WASHINGTON

ENTERED according to Act of Congress, March 31st, in the year 1832, by

JOSEPH METCALFE & CO.,

in the Office of the Clerk of the District Court, for the Eastern District of Pennsylvania.

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In the Office of the Clerk of the District Court, for the Eastern District of Pennsylvania.

9-1152

PREFACE.

In presenting the following Table to the Manufacturers of this country, the Publishers deem it necessary to state, that it is a reprint of one originally published in Manchester, England, and received the *first premium* from the Cotton-Yarn Manufacturers of that place.

The want of such a work has been long felt by the Manufacturing Community of America. A reference to this Table will not only save much time, and the trouble of making long calculations, but, will also enable purchasers of Cotton Yarn effectually to guard against imposition. It has been carefully revised by a Gentleman extensively engaged as a Cotton-Yarn Manufacturer, whose *practical*, as well as theoretical knowledge of the subject, fully qualifies him to adapt it to the wants of the Manufacturers of this country.

The Publishers, therefore, confidently recommend it as a work of great utility to all those engaged in Buying, Selling, or Making-up Cotton-Yarn, of every description.

J. METCALFE & Co.

EXPLANATION.

Suppose 2 Leas weigh ½oz. 1dwt. 7,267gr., looking under 2 Leas will be found ½oz. 1dwt. 7,267gr. which gives on the sides 8 Hanks in the pound.

The Ounces are Avoirdupoise Weight, but the Penny-weights and Grains are Troy Weight.

Hanks.	1 *Lea.*			2 *Leas.*			3 *Leas.*			4 *Leas.*		
	Oz.	Dwt.	Gr.	Oz.	Dwt.	Gr.	Oz.	Dwt.	Gr.	Oz.	Dwt.	Gr.
1	2	5	5,071	4½	1	7,267	6½	6	12,338	9	2	14,535
2	1	2	14,535	2	5	5,071	3	7	19,606	4½	1	7,267
3	½	4	18,649	1½	0	10,422	2	5	5,071	3	0	20,845
4	½	1	7,268	1	2	14,536	1½	3	21,704	2	5	5,071
5	0	8	8,114	½	7	13,353	1	6	18,592	1½	5	23,831
6	0	6	22,762	½	4	18,649	1	2	14,536	1½	0	10,423
7	0	5	22,939	½	2	19,003	½	8	17,942	1	5	14,006
8	0	5	5,071	½	1	7,267	½	6	12,339	1	2	14,536
9	0	4	15,174	½	0	3,474	½	4	18,649	1	0	6,948
10	0	4	4,057	0	8	8,114	½	3	9,296	½	7	13,354
11	0	3	18,961	0	7	13,922	½	2	6,008	½	6	0,969
12	0	3	11,381	0	6	22,762	½	1	7,268	½	4	18,649
13	0	3	4,967	0	6	9,934	½	0	12,026	½	3	16,993
14	0	2	23,469	0	5	22,939	0	8	22,408	½	2	19,003
15	0	2	18,705	0	5	13,410	0	8	8,114	½	1	23,944
16	0	2	14,536	0	5	5,071	0	7	19,607	½	1	7,268
17	0	2	10,857	0	4	21,714	0	7	8,571	½	0	16,554
18	0	2	7,587	0	4	15,175	0	6	22,762	½	0	3,474
19	0	2	4,662	0	4	9,323	0	6	13,985	0	8	18,647
20	0	2	2,029	0	4	4,057	0	6	6,086	0	8	8,114
21	0	1	23,646	0	3	23,293	0	5	22,939	0	7	22,585
22	0	1	21,481	0	3	18,961	0	5	16,442	0	7	13,922
23	0	1	19,503	0	3	15,006	0	5	10,509	0	7	6,012
24	0	1	17,690	0	3	11,381	0	5	5,071	0	6	22,762
25	0	1	16,023	0	3	8,046	0	5	0,069	0	6	16,091
26	0	1	14,484	0	3	4,967	0	4	19,450	0	6	9,934
27	0	1	13,058	0	3	2,116	0	4	15,175	0	6	4,233
28	0	1	11,734	0	2	23,469	0	4	11,204	0	5	22,939
29	0	1	10,502	0	2	21,005	0	4	7,507	0	5	18,010
30	0	1	9,352	0	2	18,705	0	4	4,057	0	5	13,409

Hanks.	5 Leas.			6 Leas.			7 Leas.			Hanks
	Oz.	Dwt.	Gr.	Oz.	Dwt.	Gr.	Oz	Dwt.	Gr.	
31	0	6	17,382	0	8	1,659	½	0	7,060	31
32	0	6	12,339	0	7	19,607	½	0	0,000	32
33	0	6	7,602	0	7	13,922	0	8	20,242	33
34	0	6	3,143	0	7	8,571	0	8	14,000	34
35	0	5	22,939	0	7	3,527	0	8	8,114	35
36	0	5	18,968	0	6	22,762	0	8	2,555	36
37	0	5	15,212	0	6	18,255	0	7	21,297	37
38	0	5	11,654	0	6	13,985	0	7	16,316	38
39	0	5	8,278	0	6	9,934	0	7	11,589	39
40	0	5	5,071	0	6	6,085	0	7	7,100	40
41	0	5	2,021	0	6	2,425	0	7	2,829	41
42	0	4	23,115	0	5	22,939	0	6	22,762	42
43	0	4	20,346	0	5	19,615	0	6	18,884	43
44	0	4	17,701	0	5	16,441	0	6	15,182	44
45	0	4	15,174	0	5	13,409	0	6	11,644	45
46	0	4	12,758	0	5	10,509	0	6	8,261	46
47	0	4	10,444	0	5	7,732	0	6	5,021	47
48	0	4	8,226	0	5	5,071	0	6	1,916	48
49	0	4	6,099	0	5	2,519	0	5	22,939	49
50	0	4	4,057	0	5	0,068	0	5	20,080	50
51	0	4	2,095	0	4	21,714	0	5	17,333	51
52	0	4	0,208	0	4	19,450	0	5	14,692	52
53	0	3	22,394	0	4	17,272	0	5	12,151	53
54	0	3	20,645	0	4	15,174	0	5	9,703	54
55	0	3	18,961	0	4	13,153	0	5	7,345	55
56	0	3	17,336	0	4	11,204	0	5	5,071	56
57	0	3	15,769	0	4	9,323	0	5	2,877	57
58	0	3	14,256	0	4	7,507	0	5	0,758	58
59	0	3	12,794	0	4	5,753	0	4	22,712	59
60	0	3	11,381	0	4	4,057	0	4	20,733	60

Hanks.	1 *Lea.*			2 *Leas.*			3 *Leas.*			4 *Leas.*		
	Oz.	Dwt.	Gr.	Oz.	Dwt.	Gr.	Oz.	Dwt.	Gr.	Oz.	Dwt.	Gr.
61	0	0	16,403	0	1	8,806	0	2	1,208	0	2	17,611
62	0	0	16,138	0	1	8,276	0	2	0,414	0	2	16,553
63	0	0	15,882	0	1	7,764	0	1	23,646	0	2	15,528
64	0	0	15,634	0	1	7,268	0	1	22,902	0	2	14,536
65	0	0	15,393	0	1	6,787	0	1	22,180	0	2	13,574
66	0	0	15,160	0	1	6,320	0	1	21,480	0	2	12,640
67	0	0	14,934	0	1	5,868	0	1	20,802	0	2	11,736
68	0	0	14,714	0	1	5,428	0	1	20,142	0	2	10,857
69	0	0	14,501	0	1	5,002	0	1	19,503	0	2	10,004
70	0	0	14,294	0	1	4,588	0	1	18,881	0	2	9,175
71	0	0	14,093	0	1	4,185	0	1	18,278	0	2	8,370
72	0	0	13,896	0	1	3,793	0	1	17,690	0	2	7,587
73	0	0	13,706	0	1	3,413	0	1	17,119	0	2	6,826
74	0	0	13,521	0	1	3,042	0	1	16,563	0	2	6,085
75	0	0	13,341	0	1	2,682	0	1	16,023	0	2	5,364
76	0	0	13,165	0	1	2,330	0	1	15,496	0	2	4,661
77	0	0	12,994	0	1	1,989	0	1	14,983	0	2	3,978
78	0	0	12,828	0	1	1,655	0	1	14,483	0	2	3,331
79	0	0	12,665	0	1	1,331	0	1	13,996	0	2	2,662
80	0	0	12,507	0	1	1,014	0	1	13,521	0	2	2,028
81	0	0	12,352	0	1	0,704	0	1	13,057	0	2	1,409
82	0	0	12,202	0	1	0,404	0	1	12,606	0	2	0,808
83	0	0	12,055	0	1	0,110	0	1	12,165	0	2	0,220
84	0	0	11,911	0	0	23,823	0	1	11,734	0	1	23,646
85	0	0	11,771	0	0	23,543	0	1	11,314	0	1	23,086
86	0	0	11,634	0	0	23,269	0	1	10,903	0	1	22,538
87	0	0	11,501	0	0	23,002	0	1	10,502	0	1	22,003
88	0	0	11,370	0	0	22,740	0	1	10,110	0	1	21,480
89	0	0	11,242	0	0	22,485	0	1	9,727	0	1	20,969
90	0	0	11,117	0	0	22,235	0	1	9,352	0	1	20,469

Hanks.	5 *Leas.*			6 *Leas.*			7 *Leas.*			Hanks.
	Oz.	Dwt.	Gr.	Oz.	Dwt.	Gr.	Oz	Dwt.	Gr.	
1	11	7	19,606	13½	3	21,801	16	0	0,000	1
2	5½	3	21,803	6½	6	12,338	8	0	0,000	2
3	3½	5	15,493	4½	1	7,275	5	6	1,924	3
4	2½	6	12,339	3	7	19,607	4	0	0,000	4
5	2	5	5,071	2½	4	10,310	3	3	15,549	5
6	1½	7	9,185	2	5	5,071	2½	3	0,958	6
7	1½	2	10,070	1½	8	9,009	2	5	5,071	7
8	1	7	19,607	1½	3	21,804	2	0	0,000	8
9	1	4	22,123	1½	0	10,423	1½	5	1,597	9
10	1	2	14,536	1	6	18,593	1½	1	19,775	10
11	1	0	17,055	1	4	12,016	1	8	6,977	11
12	½	8	6,030	1	2	14,536	1	6	1,917	12
13	½	6	21,960	1	1	0,052	1	4	5,019	13
14	½	5	18,472	½	8	17,941	1	2	14,536	14
15	½	4	18,649	½	7	13,354	1	1	5,183	15
16	½	3	21,804	½	6	12,339	1	0	0,000	16
17	½	3	3,411	½	5	14,268	½	8	1,125	17
18	½	2	11,062	½	4	18,649	½	7	2,236	18
19	½	1	20,433	½	4	1,095	½	6	5,757	19
20	½	1	7,268	½	3	9,296	½	5	11,325	20
21	½	0	19,356	½	2	19,003	½	4	18,649	21
22	½	0	8,528	½	2	6,008	½	4	3,489	22
23	0	9	1,516	½	1	18,144	½	3	13,647	23
24	0	8	16,452	½	1	7,268	½	3	0,958	24
25	0	8	8,114	½	0	21,262	½	2	13,285	25
26	0	8	0,417	½	0	12,026	½	2	2,509	26
27	0	7	17,291	½	0	3,474	½	1	16,532	27
28	0	7	10,673	0	8	22,408	½	1	7,268	28
29	0	7	4,512	0	8	15,015	½	0	22,642	29
30	0	6	22,762	0	8	8,114	½	0	14,591	30

Hanks.	1 *Lea.*			2 *Leas.*			3 *Leas.*			4 *Leas.*		
	Oz.	Dwt.	Gr.	Oz.	Dwt.	Gr.	Oz.	Dwt.	Gr.	Oz.	Dwt.	Gr.
31	0	1	8,276	0	2	16,553	0	4	0,829	0	5	9,106
32	0	1	7,268	0	2	14,535	0	3	21,803	0	5	5,071
33	0	1	6,320	0	2	12,641	0	3	18,961	0	5	1,281
34	0	1	5,428	0	2	10,857	0	3	16,285	0	4	21,714
35	0	1	4,588	0	2	9,176	0	3	13,763	0	4	18,351
36	0	1	3,793	0	2	7,587	0	3	11,381	0	4	15,174
37	0	1	3,042	0	2	6,085	0	3	9,127	0	4	12,170
38	0	1	2,331	0	2	4,661	0	3	6,992	0	4	9,323
39	0	1	1,656	0	2	3,311	0	3	4,967	0	4	6,662
40	0	1	1,014	0	2	2,028	0	3	3,043	0	4	4,057
41	0	1	0,404	0	2	0,808	0	3	1,213	0	4	1,617
42	0	0	23,823	0	1	23,646	0	2	23,469	0	3	23,292
43	0	0	23,269	0	1	22,538	0	2	21,807	0	3	21,076
44	0	0	22,740	0	1	21,480	0	2	20,221	0	3	18,961
45	0	0	22,235	0	1	20,470	0	2	18,705	0	3	16,939
46	0	0	21,751	0	1	19,503	0	2	17,254	0	3	15,006
47	0	0	21,289	0	1	18,577	0	2	15,866	0	3	13,155
48	0	0	20,845	0	1	17,690	0	2	14,535	0	3	11,381
49	0	0	20,420	0	1	16,840	0	2	13,259	0	3	9,679
50	0	0	20,011	0	1	16,023	0	2	12,034	0	3	8,045
51	0	0	19,619	0	1	15,238	0	2	10,857	0	3	6,476
52	0	0	19,242	0	1	14,483	0	2	9,725	0	3	4,967
53	0	0	18,879	0	1	13,757	0	2	8,636	0	3	3,515
54	0	0	18,529	0	1	13,058	0	2	7,587	0	3	2,116
55	0	0	18,192	0	1	12,384	0	2	6,577	0	3	0,769
56	0	0	17,867	0	1	11,734	0	2	5,602	0	2	23,469
57	0	0	17,554	0	1	11,108	0	2	4,662	0	2	22,216
58	0	0	17,251	0	1	10,502	0	2	3,753	0	2	21,005
59	0	0	16,959	0	1	9,918	0	2	2,876	0	2	19,835
60	0	0	16,676	0	1	9,352	0	2	2,028	0	2	18,704

Hanks.	5 Leas.			6 Leas.			7 Leas.			Hanks.
	Oz.	Dwt.	Gr.	Oz.	Dwt.	Gr.	Oz.	Dwt.	Gr.	
61	0	3	10,014	0	4	2,417	0	4	18,820	61
62	0	3	8,691	0	4	0,829	0	4	16,967	62
63	0	3	7,410	0	3	23,293	0	4	15,175	63
64	0	3	6,169	0	3	21,803	0	4	13,437	64
65	0	3	4,967	0	3	20,360	0	4	11,754	65
66	0	3	3,801	0	3	18,961	0	4	10,121	66
67	0	3	2,670	0	3	17,603	0	4	8,537	67
68	0	3	1,571	0	3	16,285	0	4	7,000	68
69	0	3	0,505	0	3	15,006	0	4	5,507	69
70	0	2	23,469	0	3	13,763	0	4	4,057	70
71	0	2	22,463	0	3	12,555	0	4	2,648	71
72	0	2	21,484	0	3	11,381	0	4	1,277	72
73	0	2	20,532	0	3	10,239	0	3	23,945	73
74	0	2	19,606	0	3	9,127	0	3	22,648	74
75	0	2	18,705	0	3	8,045	0	3	21,380	75
76	0	2	17,827	0	3	6,992	0	3	20,158	76
77	0	2	16,972	0	3	5,966	0	3	18,961	77
78	0	2	16,139	0	3	4,967	0	3	17,794	78
79	0	2	15,327	0	3	3,992	0	3	16,658	79
80	0	2	14,535	0	3	3,042	0	3	15,550	80
81	0	2	13,761	0	3	2,113	0	3	14,465	81
82	0	2	13,010	0	3	1,212	0	3	13,414	82
83	0	2	12,275	0	3	0,330	0	3	12,386	83
84	0	2	11,557	0	2	23,469	0	3	11,381	84
85	0	2	10,857	0	2	22,628	0	3	10,400	85
86	0	2	10,173	0	2	21,807	0	3	9,442	86
87	0	2	9,504	0	2	21,005	0	3	8,506	87
88	0	2	8,850	0	2	20,220	0	3	7,591	88
89	0	2	8,212	0	2	19,454	0	3	6,697	89
90	0	2	7,587	0	2	18,704	0	3	5,822	90

Hanks.	1 *Lea.*			2 *Leas.*			3 *Leas.*			4 *Leas.*		
	Oz.	Dwt.	Gr.	Oz.	Dwt.	Gr.	Oz.	Dwt.	Gr.	Oz.	Dwt.	Gr.
91	0	0	10,995	0	0	21,991	0	1	8,986	0	1	19,981
92	0	0	10,875	0	0	21,751	0	1	8,627	0	1	19,503
93	0	0	10,759	0	0	21,518	0	1	8,276	0	1	19,035
94	0	0	10,644	0	0	21,288	0	1	7,933	0	1	18,577
95	0	0	10,532	0	0	21,065	0	1	7,597	0	1	18,129
96	0	0	10,422	0	0	20,845	0	1	7,267	0	1	17,690
97	0	0	10,315	0	0	20,630	0	1	6,945	0	1	17,261
98	0	0	10,210	0	0	20,420	0	1	6,629	0	1	16,839
99	0	0	10,107	0	0	20,213	0	1	6,320	0	1	16,427
100	0	0	10,005	0	0	20,011	0	1	6,017	0	1	16,022
101	0	0	9,907	0	0	19,813	0	1	5,720	0	1	15,627
102	0	0	9,809	0	0	19,619	0	1	5,428	0	1	15,238
104	0	0	9,621	0	0	19,243	0	1	4,862	0	1	14,483
106	0	0	9,439	0	0	18,878	0	1	4,318	0	1	13,757
108	0	0	9,264	0	0	18,529	0	1	3,793	0	1	13,058
110	0	0	9,096	0	0	18,192	0	1	3,288	0	1	12,384
112	0	0	8,933	0	0	17,867	0	1	2,801	0	1	11,734
114	0	0	8,777	0	0	17,554	0	1	2,331	0	1	11,108
116	0	0	8,625	0	0	17,251	0	1	1,876	0	1	10,502
118	0	0	8,479	0	0	16,959	0	1	1,438	0	1	9,917
120	0	0	8,338	0	0	16,676	0	1	1,014	0	1	9,352
122	0	0	8,201	0	0	16,403	0	1	0,604	0	1	8,805
124	0	0	8,069	0	0	16,138	0	1	0,207	0	1	8,276
126	0	0	7,941	0	0	15,882	0	0	23,823	0	1	7,764
128	0	0	7,817	0	0	15,634	0	0	23,451	0	1	7,268
130	0	0	7,696	0	0	15,393	0	0	23,090	0	1	6,787
135	0	0	7,412	0	0	14,823	0	0	22,235	0	1	5,646
140	0	0	7,147	0	0	14,294	0	0	21,440	0	1	4,587
145	0	0	6,900	0	0	13,800	0	0	20,700	0	1	3,600
150	0	0	6,670	0	0	13,341	0	0	20,011	0	1	2,682

Hanks.	5 Leas.			6 Leas.			7 Leas.			Hanks.
	Oz.	Dwt.	Gr.	Oz.	Dwt.	Gr.	Oz.	Dwt.	Gr.	
91	0	2	6,976	0	2	17,972	0	3	4,967	91
92	0	2	6,379	0	2	17,254	0	3	4,130	92
93	0	2	5,794	0	2	16,552	0	3	3,312	93
94	0	2	5,222	0	2	15,866	0	3	2,510	94
95	0	2	4,661	0	2	15,194	0	3	1,726	95
96	0	2	4,113	0	2	14,535	0	3	0 58	96
97	0	2	3,576	0	2	13,891	0	3	0,206	97
98	0	2	3,049	0	2	13,259	0	2	23,469	98
99	0	2	2,534	0	2	12,640	0	2	22,747	99
100	0	2	2,028	0	2	12,034	0	2	22,040	100
101	0	2	1,533	0	2	11,440	0	2	21,346	101
102	0	2	1,047	0	2	10,857	0	2	20,666	102
104	0	2	0,104	0	2	9,725	0	2	19,346	104
106	0	1	23,197	0	2	8,636	0	2	18,075	106
108	0	1	22,322	0	2	7,587	0	2	16,851	108
110	0	1	21,480	0	2	6,576	0	2	15,672	110
112	0	1	20,668	0	2	5,602	0	2	14,535	112
114	0	1	19,884	0	2	4,661	0	2	13,438	114
116	0	1	19,128	0	2	3,753	0	2	12,379	116
118	0	1	18,397	0	2	2,876	0	2	11 356	118
120	0	1	17,690	0	2	2,028	0	2	10,366	120
122	0	1	17,007	0	2	1,208	0	2	9,410	122
124	0	1	16,345	0	2	0,414	0	2	8,483	124
126	0	1	15,705	0	1	23,646	0	2	7,587	126
128	0	1	15,084	0	1	22,901	0	2	6,718	128
130	0	1	14,483	0	1	22,180	0	2	5,877	130
135	0	1	13,058	0	1	20,470	0	2	3,881	135
140	0	1	11,734	0	1	18,881	0	2	2,025	140
145	0	1	10,500	0	1	17,400	0	2	0,300	145
150	0	1	9,352	0	1	16,022	0	1	22,693	150

Hanks.	1 *Lea.*			2 *Leas.*			3 *Leas.*			4 *Leas.*		
	Oz.	Dwt.	Gr.	Oz.	Dwt.	Gr.	Oz.	Dwt.	Gr.	Oz.	Dwt.	Gr.
155	0	0	6,455	0	0	12,910	0	0	19,365	0	1	1,820
160	0	0	6,253	0	0	12,506	0	0	18,759	0	1	1,012
165	0	0	6,063	0	0	12,126	0	0	18,189	0	1	0,252
170	0	0	5,885	0	0	11,770	0	0	17,655	0	0	23,540
175	0	0	5,717	0	0	11,434	0	0	17,151	0	0	22,868
180	0	0	5,558	0	0	11,116	0	0	16,674	0	0	22,234
185	0	0	5,408	0	0	10,816	0	0	16,224	0	0	21,632
190	0	0	5,266	0	0	10,532	0	0	15,798	0	0	21,064
195	0	0	5,130	0	0	10,260	0	0	15,390	0	0	20,520
200	0	0	5,002	0	0	10,004	0	0	15,006	0	0	20,008
205	0	0	4,880	0	0	9,760	0	0	14,640	0	0	19,520
210	0	0	4,764	0	0	9,528	0	0	14,292	0	0	19,056
215	0	0	4,653	0	0	9,306	0	0	13,959	0	0	18,612
220	0	0	4,547	0	0	9,094	0	0	13,641	0	0	18,188
225	0	0	4,446	0	0	8,892	0	0	13,338	0	0	17,784
230	0	0	4,350	0	0	8,700	0	0	13,050	0	0	17,400
235	0	0	4,257	0	0	8,514	0	0	12,771	0	0	17,028
240	0	0	4,164	0	0	8,328	0	0	12,492	0	0	16,656
245	0	0	4,083	0	0	8,166	0	0	12,249	0	0	16,332
250	0	0	4,002	0	0	8,004	0	0	12,006	0	0	16,008
255	0	0	3,923	0	0	7,846	0	0	11,769	0	0	15,692
260	0	0	3,848	0	0	7,696	0	0	11,544	0	0	15,392
265	0	0	3,775	0	0	7,550	0	0	11,325	0	0	15,100
270	0	0	3,706	0	0	7,412	0	0	11,118	0	0	14,824
275	0	0	3,638	0	0	7,276	0	0	10,914	0	0	14,552
280	0	0	3,573	0	0	7,146	0	0	10,719	0	0	14,292
285	0	0	3,510	0	0	7,020	0	0	10,530	0	0	14,040
290	0	0	3,450	0	0	6,900	0	0	10,350	0	0	13,800
295	0	0	3,391	0	0	6,782	0	0	10,173	0	0	13,564
300	0	0	3,335	0	0	6,670	0	0	10,005	0	0	13,341

Hanks.	5 Leas.			6 Leas.			7 Leas.			Hanks.
	Oz.	Dwt.	Gr.	Oz.	Dwt.	Gr.	Oz.	Dwt.	Gr.	
155	0	1	8,275	0	1	14,730	0	1	21,185	155
160	0	1	7,265	0	1	13,518	0	1	19,771	160
165	0	1	6,315	0	1	12,378	0	1	18,441	165
170	0	1	5,425	0	1	11,310	0	1	17,195	170
175	0	1	4,585	0	1	10,302	0	1	16,019	175
180	0	1	3,790	0	1	9,348	0	1	14,906	180
185	0	1	3,040	0	1	8,448	0	1	13,856	185
190	0	1	2,330	0	1	7,596	0	1	12,862	190
195	0	1	1,650	0	1	6,780	0	1	11,910	195
200	0	1	1,010	0	1	6,012	0	1	11,014	200
205	0	1	0,400	0	1	5,280	0	1	10,160	205
210	0	0	23,820	0	1	4,584	0	1	9,348	210
215	0	0	23,265	0	1	3,918	0	1	8,571	215
220	0	0	22,735	0	1	3,282	0	1	7,829	220
225	0	0	22,230	0	1	2,676	0	1	7,122	225
230	0	0	21,750	0	1	2,100	0	1	6,450	230
235	0	0	21,285	0	1	1,542	0	1	5,799	235
240	0	0	20,820	0	1	0,824	0	1	5,148	240
245	0	0	20,415	0	1	0,498	0	1	4,581	245
250	0	0	20,010	0	1	0,012	0	1	4,014	250
255	0	0	19,615	0	0	23,538	0	1	3,461	255
260	0	0	19,240	0	0	23,088	0	1	2,936	260
265	0	0	18,875	0	0	22,650	0	1	2,425	265
270	0	0	18,530	0	0	22,236	0	1	1,942	270
275	0	0	18,190	0	0	21,828	0	1	1,466	275
280	0	0	17,865	0	0	21,438	0	1	1,011	280
285	0	0	17,550	0	0	21,060	0	1	0,570	285
290	0	0	17,250	0	0	20,700	0	1	0,150	290
295	0	0	16,955	0	0	20,346	0	0	23,737	295
300	0	0	16,675	0	0	20,010	0	0	23,345	300

COTTON-YARN MEASURE.

54 Inches, or 1½ yards - - - - - make 1 Thread.
80 Threads, or 120 yards - - - - make 1 Lea, or Wrap.
7 Leas, or 840 yards - - - - - make 1 Hank.

WARP TABLES.

The following Tables have been carefully calculated expressly for this Work, and it is believed will be found very useful to Cotton Manufacturers. They exhibit, at one view, the number of Hanks, Leas, and Yards, sufficient to make a warp, of from two to three hundred Yards in length, with from eight to twelve hundred Ends.

RULE.

To ascertain the number of pounds sufficient to make a Warp, divide the quantity, found in the Tables, by the number of the Yarn intended to be used.

Example.—Suppose you wish to ascertain what number of pounds, of No. 19, will make a Chain 240 Yds. long, with 1,200 Ends. In the Table marked 240 Yds. you find 1,200 Ends require 342 Hanks, 6 Leas; this divided by 19, (the number of the Yarn,) gives 18 lbs., 6 Leas, or ½ oz. 4 dwt. 1,095 gr., the quantity required.

```
                Hanks. Leas.
19) 342   6  (18lbs. 6 Leas.
    19
   ---
   152
   152
  ----
     6
```

If you have a Warp with a greater number of Ends than the Tables are calculated for, you may ascertain the quantity by adding or doubling. Thus, if you have a Warp with 2,600 Ends, by doubling the Hanks, Leas, and Yds. opposite the 800, and adding the same to the Hanks, Leas, and Yds. opposite the 1,000 you have the quantity necessary.

For a Warp 200 Yds. Long,				For a Warp 210 Yds. Long,			
Ends.	Hanks.	Leas.	Yds.	Ends.	Hanks.	Leas.	Yds.
800	190	3	40	800	200	0	0
810	192	6	0	810	202	3	60
820	195	1	80	820	205	0	0
830	197	4	40	830	207	3	60
840	200	0	0	840	210	0	0
850	202	2	80	850	212	3	60
860	204	5	40	860	215	0	0
870	207	1	0	870	217	3	60
880	209	3	80	880	220	0	0
890	211	6	40	890	222	3	60
900	214	2	0	900	225	0	0
910	216	4	80	910	227	3	60
920	219	0	40	920	230	0	0
930	221	3	0	930	232	3	60
940	223	5	80	940	235	0	0
950	226	1	40	950	237	3	60
960	228	4	0	960	240	0	0
970	230	6	80	970	242	3	60
980	233	2	40	980	245	0	0
990	235	5	0	990	247	3	60
1,000	238	0	80	1,000	250	0	0
1,010	240	3	40	1,010	252	3	60
1,020	242	6	0	1,020	255	0	0
1,030	245	1	80	1,030	257	3	60
1,040	247	4	40	1,040	260	0	0
1,050	250	0	0	1,050	262	3	60
1,060	252	2	80	1,060	265	0	0
1,070	254	5	40	1,070	267	3	60
1,080	257	1	0	1,080	270	0	0
1,090	259	3	80	1,090	272	3	60
1,100	261	6	40	1,100	275	0	0
1,110	264	2	0	1,110	277	3	60
1,120	266	4	80	1,120	280	0	0
1,130	269	0	40	1,130	282	3	60
1,140	271	3	0	1,140	285	0	0
1,150	273	5	80	1,150	287	3	60
1,160	276	1	40	1,160	290	0	0
1,170	278	4	0	1,170	292	3	60
1,180	280	6	80	1,180	295	0	0
1,190	283	2	40	1,190	297	3	60
1,200	285	5	0	1,200	300	0	0

For a Warp 220 Yds. Long,				For a Warp 230 Yds. Long,			
Ends.	Hanks.	Leas.	Yds.	Ends.	Hanks.	Leas.	Yds.
800	209	3	80	800	219	0	40
810	212	1	0	810	221	5	60
820	214	5	40	820	224	3	80
830	217	2	80	830	227	1	100
840	220	0	0	840	230	0	0
850	222	4	40	850	232	5	20
860	225	1	80	860	235	3	40
870	227	6	0	870	238	1	60
880	230	3	40	880	240	6	80
890	233	0	80	890	243	4	100
900	235	5	0	900	246	3	0
910	238	2	40	910	249	1	20
920	240	6	80	920	251	6	40
930	243	4	0	930	254	4	60
940	246	1	40	940	257	2	80
950	248	5	80	950	260	0	100
960	251	3	0	960	262	6	0
970	254	0	40	970	265	4	20
980	256	4	80	980	268	2	40
990	259	2	0	990	271	0	60
1,000	261	6	40	1,000	273	5	80
1,010	264	3	80	1,010	276	3	100
1,020	267	1	0	1,020	279	2	0
1,030	269	5	40	1,030	283	0	20
1,040	272	2	80	1,040	284	5	40
1,050	275	0	0	1,050	287	3	60
1,060	277	4	40	1,060	290	1	80
1,070	280	1	80	1,070	292	6	100
1,080	282	6	0	1,080	295	5	0
1,090	285	3	40	1,090	298	3	20
1,100	288	0	80	1,100	301	1	40
1,110	290	5	0	1,110	303	6	60
1,120	293	2	40	1,120	306	4	80
1,130	295	6	80	1,130	309	2	100
1,140	298	4	0	1,140	312	1	0
1,150	301	1	40	1,150	314	6	20
1,160	303	5	80	1,160	317	4	40
1,170	306	3	0	1,170	320	2	60
1,180	309	0	40	1,180	323	0	80
1,190	311	4	80	1,190	325	5	100
1,200	314	2	0	1,200	328	4	0

For a Warp 240 Yds. Long,				For a Warp 250 Yds. Long,			
Ends.	Hanks.	Leas.	Yds.	Ends.	Hanks.	Leas.	Yds.
800	228	4	0	800	238	0	80
810	231	3	0	810	241	0	60
820	234	2	0	820	244	0	40
830	237	1	0	830	247	0	20
840	240	0	0	840	250	0	0
850	242	6	0	850	252	6	100
860	245	5	0	860	255	6	80
870	248	4	0	870	258	6	60
880	251	3	0	880	261	6	40
890	254	2	0	890	264	6	20
900	257	1	0	900	267	6	0
910	260	0	0	910	270	5	100
920	262	6	0	920	273	5	80
930	265	5	0	930	276	5	60
940	268	4	0	940	279	5	40
950	271	3	0	950	282	5	20
960	274	2	0	960	285	5	0
970	277	1	0	970	288	4	100
980	280	0	0	980	291	4	80
990	282	6	0	990	294	4	60
1,000	285	5	0	1,000	297	4	40
1,010	288	4	0	1,010	300	4	20
1,020	291	3	0	1,020	303	4	0
1,030	294	2	0	1,030	306	3	100
1,040	297	1	0	1,040	309	3	80
1,050	300	0	0	1,050	312	3	60
1,060	302	6	0	1,060	315	3	40
1,070	305	5	0	1,070	318	3	20
1,080	308	4	0	1,080	321	3	0
1,090	311	3	0	1,090	324	2	100
1,100	314	2	0	1,100	327	2	80
1,110	317	1	0	1,110	330	2	60
1,120	320	0	0	1,120	333	2	40
1,130	322	6	0	1,130	336	2	20
1,140	325	5	0	1,140	339	2	0
1,150	328	4	0	1,150	342	1	100
1,160	331	3	0	1,160	345	1	80
1,170	334	2	0	1,170	348	1	60
1,180	337	1	0	1,180	351	1	40
1,190	340	0	0	1,190	354	1	20
1,200	342	6	0	1,200	357	1	0

For a Warp 260 Yds. Long,				For a Warp 270 Yds. Long,			
Ends.	Hanks.	Leas.	Yds.	Ends.	Hanks.	Leas.	Yds.
800	247	4	40	800	257	1	0
810	250	5	0	810	260	2	60
820	253	5	80	820	263	4	0
830	256	6	40	830	266	5	60
840	260	0	0	840	270	0	0
850	263	0	80	850	273	1	60
860	266	1	40	860	276	3	0
870	269	2	0	870	279	4	60
880	272	2	80	880	282	6	0
890	275	3	40	890	286	0	60
900	278	4	0	900	289	2	0
910	281	4	80	910	292	3	60
920	284	5	40	920	295	5	0
930	287	6	0	930	298	6	60
940	290	6	80	940	302	1	0
950	294	0	40	950	305	2	60
960	297	1	0	960	308	4	0
970	300	1	80	970	311	5	60
980	303	2	40	980	315	0	0
990	306	3	0	990	318	1	60
1,000	309	3	80	1,000	321	3	0
1,010	312	4	40	1,010	324	4	60
1,020	315	5	0	1,020	327	6	0
1,030	318	5	80	1,030	331	0	60
1,040	321	6	40	1,040	334	2	0
1,050	325	0	0	1,050	337	3	60
1,060	328	0	80	1,060	340	5	0
1,070	331	1	40	1,070	343	6	60
1,080	334	2	0	1,080	347	1	0
1,090	337	2	80	1,090	350	2	60
1,100	340	3	40	1,100	353	4	0
1,110	343	4	0	1,110	356	5	60
1,120	346	4	80	1,120	360	0	0
1,130	349	5	40	1,130	363	1	60
1,140	352	6	0	1,140	366	3	0
1,150	355	6	80	1,150	369	4	60
1,160	359	0	40	1,160	372	6	0
1,170	362	1	0	1,170	376	0	60
1,180	365	1	80	1,180	379	2	0
1,190	368	2	40	1,190	382	3	60
1,200	371	3	0	1,200	385	5	0

For a Warp 280 Yds. Long,				For a Warp 290 Yds. Long,			
Ends.	Hanks.	Leas.	Yds.	Ends.	Hanks	Leas.	Yds.
800	266	4	80	800	276	1	40
810	270	0	0	810	279	4	60
820	273	2	40	820	283	0	80
830	276	4	80	830	286	3	100
840	280	0	0	840	290	0	0
850	283	2	40	850	293	3	20
860	286	4	80	860	296	6	40
870	290	0	0	870	300	2	60
880	293	2	40	880	303	5	80
890	296	4	80	890	307	1	100
900	300	0	0	900	310	5	0
910	303	2	40	910	314	1	20
920	306	4	80	920	317	4	40
930	310	0	0	930	321	0	60
940	313	2	40	940	324	3	80
950	316	4	80	950	327	6	100
960	320	0	0	960	331	3	0
970	323	2	40	970	334	6	20
980	326	4	80	980	338	2	40
990	330	0	0	990	341	5	60
1,000	333	2	40	1,000	345	1	80
1,010	336	4	80	1,010	348	4	100
1,020	340	0	0	1,020	352	1	0
1,030	343	2	40	1,030	355	4	20
1,040	346	4	80	1,040	359	0	40
1,050	350	0	0	1,050	362	3	60
1,060	353	2	40	1,060	365	6	80
1,070	356	4	80	1,070	369	2	100
1,080	360	0	0	1,080	372	6	0
1,090	363	2	40	1,090	376	2	20
1,100	366	4	80	1,100	379	5	40
1,110	370	0	0	1,110	383	1	60
1,120	373	2	40	1,120	386	4	80
1,130	376	4	80	1,130	390	0	100
1,140	380	0	0	1,140	393	4	0
1,150	383	2	40	1,150	397	0	20
1,160	386	4	80	1,160	400	3	40
1,170	390	0	0	1,170	403	6	60
1,180	393	2	40	1,180	407	2	80
1,190	396	4	80	1,190	410	5	100
1,200	400	0	0	1,200	414	2	0

For a Warp 300 Yards Long,

Ends.	Hanks	Leas.	Yds.	Ends.	Hanks.	Leas.	Yds.
800	285	5	0	1,000	357	1	0
810	289	2	0	1,010	360	5	0
820	292	6	0	1,020	364	2	0
830	296	3	0	1,030	367	6	0
840	300	0	0	1,040	371	3	0
850	303	4	0	1,050	375	0	0
860	307	1	0	1,060	378	4	0
870	310	5	0	1,070	382	1	0
880	314	2	0	1,080	385	5	0
890	317	6	0	1,090	389	2	0
900	321	3	0	1,100	392	6	0
910	325	0	0	1,110	396	3	0
920	328	4	0	1,120	400	0	0
930	332	1	0	1,130	403	4	0
940	335	5	0	1,140	407	1	0
950	339	2	0	1,150	410	5	0
960	342	6	0	1,160	414	2	0
970	346	3	0	1,170	417	6	0
980	350	0	0	1,180	421	3	0
990	353	4	0	1,190	425	0	0
				1,200	428	4	0

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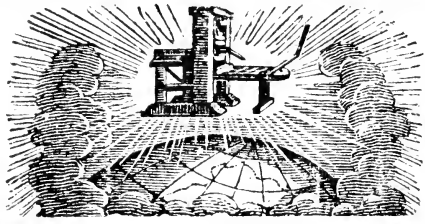

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